M/V NEW CARISSA
Grounding
Waldport, Oregon

Unified Command Decision Memo

16465
March 12, 1999

Fate of Oil Onboard M/V NEW CARISSA

Pregrounding Report of Oil Onboard

Tank #	gallons capacity	mT o/b	sp. gr.	API	gallons o/b
Bunker					
No. 1	134,030	422	.9749	13.6	114,466
No. 2	132,984	371	.9665	14.9	101,507
No. 3	104,483	11.7	.9290	20.8	3,179
No. 4	133,262	354	.9542	16.8	98,104
No. 5	47,422	154	.9749	13.6	41,772
Diesel					
No. 1	45,617	124	.8776	29.7	37,364
Total Oil		1436.7			396,392

Assumptions:

(1) The #1 fuel tank in #2 hold was tidal prior to burn. Initial assessment after the burn indicated floating oil in the hold. Based on this, an estimated 55 K - 85 K gallons burned.

(2) The #2 fuel tank in #3 hold was non-tidal prior to burn. After the burn, the level of oil in the tank appeared close to the tanktop. Based on this, an estimated 10 K - 20 K gallons oil burned.

(3) The #3 fuel tank in #4 hold was non-tidal prior to burn. After the burn, some burn residue was seen in cargo hold. Only 3 K gallons were in this tank initially.

(4) The #4 fuel tank in #5 hold was tidal prior to burn. Tank #4 was compromised when the vessel broke during the primary burn. Hold #5 continued to burn after the stern broke off for total of 33 hours. An estimated 50 K - 80 K gallons oil burned.

(5) The #5 fuel tank and #1 diesel tank in the stern of vessel showed significant tidal action prior to burn. The stern continued to burn after the vessel broke. Estimate 10 K gallons oil released (based on visual overflight obs) and rest burned or remained in stern. (50 K - 70 K gallons).

(6) During overflights, noted a small quantity of fuel leaking from the stern during the 4 days prior to burn. Estimate 3K gallons in the water based

on visual observations. For period of 3 days after the burn observed significantly more oil on the water in the vicinity of the vessel.

Fate of Oil from Grounding, Burning and Scuttling of M/V NEW CARISSA

The following volume ranges have been estimated to describe how much of the M/V NEW CARISSA oil was discharged into the water, burned, and left on board when the bow was scuttled.

Initial quantity on board:	400 K
Oil released before burn	5 K - 10 K
Oil released after burn	20 K - 60 K
Oil burned on vessel	165 K - 255 K
Oil on board when scuttled	110 K - 150 K

The lower range of oil released to the water is based on visual overflight observations. The higher range of oil released is based on a salvage model calculation of potential loss from vessel damage. There is also uncertainty associated with how much was burned or lost to the water from fuel tank #4 when the vessel broke. The relatively small quantity of oil observed on the shoreline may be due to the high degree of natural dispersion which would be expected to occur in the high surf where the vessel was grounded. This is consistent with the small tarball size and overall distribution observed on the shoreline.

The burn lasted approximately 33 hours. The rate of oil burned on the vessel results from the difficulty in calculating actual burn rates and the inaccessibility of some of the tanks. In situ burn rates are highly dependent on the surface area of the burn and the amount of oxygen available. Fuel tanks #5P and #1 MDO in the stern are not assessable. Fuel tank #4 in Hold #5 was ruptured when the stern broke off the vessel approximately 5 hours into the burn. Hold # 5 and the stern section continued to burn fiercely afterwards so it is difficult to know how much oil was released into the water and how much burned.

The range of oil on board when scuttled is based on several factors. Fuel remaining in tanks #1 and #2 was difficult to determine. Life safety concerns limited the team's ability to access tank tops in more than one location. Due to the viscous properties of the oil and water mixture, it was extremely difficult to accurately determine the oil/water interface boundaries.

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